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TITLE: Keratinocyte growth factor-2 formulations

DATE-ISSUED: May 29, 2001

INVENTOR-INFORMATION:

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CLAIMS:

What is claimed is:

1. A pharmaceutical composition, comprising:

(a) a KGF-2 polypeptide in a concentration range of about 0.02 to about 40 mg/ml (w/v);

(b) a buffer having a buffering capacity of about pH 5.0 to about pH 8.0 at a concentration range of about 5 mM to about 50 mM; and

(c) a diluent to bring the composition to a designated volume;

or a reaction product of (a), (b), (c) or any combination thereof formed by admixing the ingredients of said composition together.

2. The pharmaceutical composition of claim 1, further comprising:

(d) a chelating agent at a concentration range of about 0.1 mM to about 10 mM; and

(e) NaCl at a concentration range of about 0.01 mM to about 150 mM.

3. The pharmaceutical composition of claim 1, further comprising one of:

(f) about 0.5% to about 2% w/v glycerol,

(g) about 0.1% to about 1% w/v methionine, or

(h) about 0.1% to about 2% w/v monothioglycerol.

4. The pharmaceutical composition of claim 1, wherein said KGF-polypeptide is present in a concentration range of about 0.05 to about 30 mg/ml (w/v).

5. The pharmaceutical composition of claim 4, wherein said KGF-polypeptide is present in a concentration range of about 0.1 to about 20 mg/ml (w/v).

6. The pharmaceutical composition of claim 5, wherein said KGF-polypeptide is present in a concentration range of about 0.2 to 4 mg/ml.

7. The pharmaceutical composition of claim 1, wherein said KGF-2 polypeptide is Ser (69)--Ser (208) of KGF-2.

8. The pharmaceutical composition of claim 1, wherein said diluent is water.

9. The pharmaceutical composition of claim 2, wherein said chelating agent is ethylenediamine tetraacetic acid at a concentration of about 1 mM, and said NaCl is present at a concentration of about 125 mM.

10. The pharmaceutical composition of claim 1, wherein said pH is from about pH 5.5 to about pH 6.5.

11. The pharmaceutical composition of claim 10, wherein said pH is about pH 6.2.

12. The pharmaceutical composition of claim 1, wherein said buffer is selected from the group consisting of phosphonic, acetic, aconitic, citric, glutaric, malic, succinic carbonic acid, and an alkali or alkaline earth salt thereof.

13. The pharmaceutical composition of claim 12, wherein said buffer is a phosphate, acetate or citrate salt.

14. The pharmaceutical composition of claim 13, wherein said buffer is a citrate salt.

15. The pharmaceutical composition of claim 1, wherein said buffer is present in a concentration range of about 5 mM to about 30 mM.

16. The pharmaceutical composition of claim 15, wherein said buffer is a citrate salt present in a concentration of from about 10 mM to about 20 mM.

17. The pharmaceutical composition of claim 1, further comprising a stabilizing amount of one or more of (a) an antioxidant or (b) a thiol-compound.

18. The pharmaceutical composition of claim 1, wherein said composition is maintained at a temperature at or below -20.degree. C.

19. The pharmaceutical composition of claim 1, comprising:

(a) 2 mg/ml Ser (69)--Ser (208) of KGF-2polypeptide(w/v);

(b) 20 mM sodium acetate;

(c) 125 mM NaCl;

(d) 1 mM ethylenediamine tetraacetic acid; and

(e) water as diluent, or

a reaction product of (a), (b) or (c) or any combination thereof formed by admixing the ingredients of said composition together.

20. The pharmaceutical composition of claim 19, wherein said KGF-2 polypeptide is selected from the group consisting of Ser (69)--Ser (208) of KGF-2 having an N-terminal methionine, Ser (69)--Ser (208) of KGF-2 lacking an N-terminal

methionine, and a mixture thereof.

21. A pharmaceutical composition, comprising:

(a) a KGF-2 polypeptide in a concentration range of about 0.02 to about 40 mg/ml (w/v);

(b) a buffer having a buffering capacity of about pH 5.0 to about pH 8.0 at a concentration range of about 5 mM to about 50 mM;

(c) a bulking agent; and

(d) a to bring the composition to a designated volume;

or a reaction product of (a), (b), (c), (d) or any combination thereof formed by admixing the ingredients of said composition together.

22. The pharmaceutical composition of claim 21, wherein said bulking agent is selected from the group consisting of sucrose, glycine, mannitol, trehalose, and mixtures of two or more of the bulking agents present in any combination thereof in any amount as long as the total amount of the components make up 100% of the bulking agent.

23. The pharmaceutical composition of claim 21, further comprising:

(e) a chelating agent at a concentration range of about 0.1 mM to about 10 mM; and

(f) NaCl at a concentration range of about 0.01 mM to about 125 mM.

24. The pharmaceutical composition of claim 22, wherein said bulking agent is sucrose or a mixture of sucrose and glycine present in any combination thereof in any amount as long as the total amount of sucrose and glycine make up 100% of the bulking agent.

25. The pharmaceutical composition of claim 22, wherein said bulking agent is present in a concentration of about 2% to about 10% w/v.

26. The pharmaceutical composition of claim 22, wherein said bulking agent is 5% mannitol, 7% sucrose, 8% trehalose, or 2% glycine +0.5% sucrose.

27. The pharmaceutical composition of claim 21, wherein said pH is about pH 6.2.

28. The pharmaceutical composition of claim 21, wherein said diluent is water.

29. The pharmaceutical composition of claim 21, wherein said buffer is selected from the group consisting of phosphonic, acetic, aconitic, citric, glutaric, malic, succinic carbonic acid, and an alkali or alkaline earth salt thereof.

30. The pharmaceutical composition of claim 29, wherein said buffer is a phosphate or citrate salt.

31. The pharmaceutical composition of claim 30, wherein said buffer is a citrate salt.

32. The pharmaceutical composition of claim 21, wherein said KGF polypeptide is Ser (69)--Ser (208) of KGF-2.

33. The pharmaceutical composition of claim 32, wherein said KGF-2 .DELTA.33 polypeptide is selected from the group consisting of Ser (69)--Ser (208) of KGF-2 having an N-terminal methionine, Ser (69)--Ser (208) of KGF-2 lacking an N-terminal methionine, and a mixture thereof.

34. The pharmaceutical composition of claim 21, wherein said buffer is added in

a concentration from about 5 mM to about 50 mM.

35. The pharmaceutical composition of claim 34, wherein said buffer is citrate at a concentration of about 10 mM.

36. The pharmaceutical composition of claim 21, further including a stabilizing amount of one or more of (g) an antioxidant, or (h) a thiol-compound.

37. A pharmaceutical composition, comprising:

(a) a KGF-2 polypeptide in a concentration range of about 0.02 to about 40 mg/ml (w/v);

(b) citric acid or a pharmaceutically acceptable salt thereof, at a concentration range of about 5 mM to about 20 mM;

(c) NaCl at a concentration range of about 0.01 mM to about 125 mM;

(d) ethylenediamine tetraacetic acid at a concentration range of about 0.1 mM to about 10 mM;

(e) one or more of sucrose, mannitol, glycine or trehalose at a concentration range of about 2% w/v to about 15% w/v; and

(f) water.

38. The pharmaceutical composition of claim 37, wherein said KGF-2 polypeptide is present at a concentration of about 2 mg/ml, about 4 mg/ml, or about 10 mg/ml.

39. The pharmaceutical composition of claim 1, further comprising a thickening agent in an amount effective to raise the viscosity to about 50 to about 10,000 centipoise.

40. The pharmaceutical composition of claim 40, wherein said thickening agent is present in an amount effective to raise the viscosity to about 50 to about 1,000 centipoise.

41. The pharmaceutical composition of claim 40, wherein said thickening agent in an amount effective to raise the viscosity to about 200 to about 300 centipoise.

42. The pharmaceutical composition of claim 21, further comprising a thickening agent in an amount effective to raise the viscosity to about 50 to about 10,000 centipoise.

43. The pharmaceutical composition of claim 39, wherein said thickening agent is present in a concentration of 0 to 5% (w/w).

44. The pharmaceutical composition of claim 39, wherein said thickening agent is a water soluble etherified cellulose or a high molecular weight polymer of acrylic acid cross-linked with allylsucrose or an allyl ether of pentaerythritol.

45. The pharmaceutical composition of claim 44, wherein said etherified cellulose is an alkyl cellulose, hydroxyalkyl cellulose, carboxyalkyl cellulose or alkylhydroxyalkyl cellulose.

46. The pharmaceutical composition of claim 39, wherein said etherified cellulose is methylcellulose, hydroxyethyl cellulose, hydroxy propyl cellulose, hydroxy propyl methylcellulose, or carboxymethyl cellulose.

47. The pharmaceutical composition of claim 45, wherein said etherified cellulose derivative has a molecular weight of about 50,000 to about 700,000 and is present in a concentration of about 0 to about 20% by weight.

48. The pharmaceutical composition of claim 47, wherein said etherified cellulose derivative has a molecular weight of about 80,000 to about 240,000 and is present in a concentration of about 2% to about 8% by weight.

49. The pharmaceutical composition of claim 42, wherein said buffer is citrate in a concentration of about 10 mM to about 50 mM.

50. The pharmaceutical composition of claim 49, wherein said buffer is citrate in a concentration of about 10 mM to about 20 mM citrate.

51. The pharmaceutical composition of claim 49, wherein said bulking agent is sucrose in a concentration of about 0.01% to about 5% sucrose.

52. The pharmaceutical composition of claim 51, wherein said thickening agent is added directly to a liquid formulation and thereafter lyophilized.

53. The pharmaceutical composition of claim 51, wherein said thickening agent is added to a lyophilized formulation by reconstituting said formulation by adding a suitable diluent having a thickening agent dissolved therein.

54. A thickened KGF-2 polypeptide solution composition formed by mixing:

(a) a KGF-2 polypeptide in a concentration range of about 0.01 .mu.g/ml to about 10 mg/ml;

(b) about 10 mM to about 500 mM sodium citrate buffer;

(c) about 0.01 to about 150 mM NaCl;

(d) 1 mM ethylenediamine tetraacetic acid;

(e) about 0.1 to about 7% sucrose; and

(f) about 0.75 to about 1.5% (w/w) carboxy methyl cellulose or about 0.5 to about 1.5% hydroxy propyl methyl cellulose or about 0.25 to about 0.75% hydroxy ethyl cellulose or about 0 to 1% carbomer or any combination thereof.

55. The composition of claim 1, further comprising a gelling agent in an amount effective to raise the viscosity to about 0.1 to about 10,000 centipoise at room temperature.

56. The composition of claim 21, further comprising a gelling agent in an amount effective to raise the viscosity to about 0.1 to about 10,000 centipoise at room temperature.

57. The composition of claim 55, wherein said gel forming agent is a water-soluble polymer capable of forming a viscous aqueous solution, or non-water soluble, water-swellable polymer capable of forming a viscous solution.

58. The composition of claim 57, wherein said gel forming agent is a high molecular weight polymer selected from the group consisting of vinyl polymer, polyoxyethylene-polyoxypropylene copolymer, polysaccharide, protein, poly(ethylene oxide), acrylamide polymer or a salt thereof.

59. The composition of claim 58, wherein said gel forming agent is (1) a vinyl polymer selected from the group consisting of polyacrylic acid, polymethacrylic acid, polyvinyl pyrrolidone polyvinyl alcohol and salts and esters thereof; or (2) a polysaccharide selected from the group consisting of a cellulose derivative, a glycosaminoglycan, agar, pectin, alginic acid, dextran, .alpha.-amylose, amylopectin, chitosan, and salts esters thereof.

60. The composition of claim 58, wherein said gel forming agent is a glycosaminoglycan selected from the group consisting of hyaluronic acid,

chondroitin, chondroitin-4-sulfate, heparan sulfate, heparin and salts and esters thereof.

61. The composition of claim 60, wherein said glycosaminoglycan is present in combination with collagen, gelatin, or fibronectin.

62. The composition of claim 58, wherein said gel forming agent is an acrylamide polymer selected from the group consisting of a polyacrylamide or a polymethacrylamide.

63. The composition of claim 58, wherein said gel forming agent is a polyoxyethylene-polyoxypropylene block copolymer.

64. The composition of claim 63, which comprises about 10 to about 60% by weight of a polyoxyethylene-polyoxypropylene block copolymer having an average molecular weight of about 500 to 50,000.

65. The composition of claim 64, which comprises about 14 to about 18% by weight of a polyoxyethylene-polyoxypropylene block copolymer having a molecular weight in the range 1,000 to 15,000.

66. The composition of claim 65, wherein said gel forming agent is a polyoxyethylene-polyoxypropylene block copolymer having an average molecular weight of 12,600 or 14,600.

67. The composition of claim 1, wherein said KGF-2 polypeptide is present in a concentration of about 0.01 mg/ml to about 10 mg/ml.

68. The composition of claim 55, wherein said composition is formed by mixing:

(a) a KGF-2 polypeptide, in a final calculated concentration of 0.01 mg/ml to about 10 mg/ml;

(b) an effective amount of a buffering agent;

(c) about 10% to about 60% by weight of a polyoxyethylene-polyoxypropylene block copolymer having an average molecular weight of about 500 to 50,000; and

(d) a diluent.

69. The composition of claim 68, wherein polyoxyethylene-polyoxypropylene block copolymer is present at a concentration of about 14% to about 18%.

70. A KGF-2 gel formulation, comprising:

(a) a KGF-2 polypeptide in a concentration range of about 0.01 mg/ml to about 10 mg/ml;

(b) about 10 mM to about 500 mM sodium citrate;

(c) about 0.01 mM to about 150 mM NaCl;

(d) about 1 mM ethylenediamine tetraacetic acid;

(e) about 0.1% to about 7% sucrose; and

(f) about 14% to about 18% of a polyoxypropylene-polyoxyethylene block copolymer having an average molecular weight of 12,600;

wherein the pH of said formulation is about pH 6.2.

71. A KGF-2 gel formulation, comprising:

(a) a KGF-2 polypeptide at a concentration range of about 0.01 mg/ml to about 10 mg/ml (w/v),

(b) sodium citrate at a concentration range of about 5 mM to about 20 mM;

(c) about 10% to about 25% (w/v), of a polyoxyethylene polyoxypropylene copolymer having an average molecular weight of 12,600; and

(d) water to volume.

72. The gel formulation of claim 71, further comprising:

(a) ethylenediamine tetraacetic acid at a concentration range of about 0.1 mM to about 10 mM; and

(b) NaCl at a concentration range of about 0.01 mM to about 125 mM.

73. The pharmaceutical composition of claim 1, wherein said KGF-2 polypeptide is a N-terminal deletion selected from the group consisting of Ala (63)--Ser (208) and Ser (69)--Ser (208).

74. The pharmaceutical composition of claim 73, wherein said KGF-2 polypeptide has an N-terminal methionine, lacks an N-terminal methionine, or is a mixture thereof.

75. The pharmaceutical composition of claim 1, wherein said KGF-2 polypeptide is a N-terminal or C-terminal deletion mutant selected from the group consisting of Ala (39)--Ser (208); Pro (47)--Ser (208); Val (77)--Ser (208); Glu (93)--Ser (208); Glu (104)--Ser (208); Val (123)--Ser (208); Gly (138)--Ser (208); Met (1), Thr (36); and Cys (37)--Lys (153).

76. The pharmaceutical composition of claim 75, wherein said KGF-2 polypeptide has an N-terminal methionine, lacks an N-terminal methionine, or is a mixture thereof.

77. The pharmaceutical composition of claim 7, wherein said polypeptide is selected from the group consisting of Ser (69)--Ser (208) of KGF-2 having an N-terminal methionine, Ser (69)--Ser (208) of KGF-2 lacking an N-terminal methionine, and a mixture thereof.

78. A pharmaceutical composition produced by removing, by lyophilization, over 90% of the water from a mixture comprising:

(a) a KGF-2 polypeptide in a concentration range of about 0.02 to about 40 mg/ml (w/v);

(b) a buffer having a buffering capacity of about pH 5.0 to about pH 8.0 at a concentration range of about 5 mM to about 50 mM;

(c) a bulking agent; and

(d) water to bring the composition to a designated volume;

or a reaction product of (a), (b), (c), (d) or any combination thereof formed by admixing the ingredients of said composition together.

79. A pharmaceutical composition, produced by removing, by lyophilization, over 90% of the water from a mixture comprising:

(a) a KGF-2 polypeptide in a concentration range of about 0.02 to about 40 mg/ml (w/v);

(b) citric acid or a pharmaceutically acceptable salt thereof, at a concentration range of about 5 mM to about 20 mM;

(c) NaCl at a concentration range of about 0.01 mM to about 125 mM;

(d) ethylenediamine tetraacetic acid at a concentration range of about 0.1 mM to about 10 mM;

(e) one or more of sucrose, mannitol, glycine or trehalose at a concentration range of about 2% w/v to about 15% w/v; and

(f) water.

80. The pharmaceutical composition of claim 78, which is reconstituted with an amount of sterile water effective to maintain isotonic conditions of about 290 mOsm.

81. The pharmaceutical composition of claim 32, wherein said composition is reconstituted in sterile water containing a stabilizing amount of an antioxidant selected from the group consisting of: a) about 0.01% to about 2% w/v monothioglycerol, b) about 0.01% to about 2% w/v ascorbic acid, c) about 0.01% to about 2% w/v methionine or d) combinations thereof.

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L1: Entry 1 of 1 File: USPT Jun 20, 2000

US-PAT-NO: 6077692
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TITLE: Keratinocyte growth factor-2

DATE-ISSUED: June 20, 2000

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CLAIMS:

What is claimed is:

1. An isolated polypeptide comprising at least 10 contiguous amino acids of SEQ ID NO:2.

2. The isolated polypeptide of claim 1, which comprises at least 30 contiguous amino acids of SEQ ID NO:2.

3. The isolated polypeptide of claim 2, which comprises at least 50 contiguous amino acids of SEQ ID NO:2.

4. The isolated polypeptide of claim 3, which comprises Gly(138) to Ser(208) of SEQ ID NO:2.

5. The isolated polypeptide of claim 4 having a Met residue at the N-terminus of said polypeptide.

6. The isolated polypeptide of claim 4 further comprising a heterologous polypeptide.

7. A composition comprising the polypeptide of claim 4 and a pharmaceutically acceptable carrier.

8. The isolated polypeptide of claim 3, which comprises Val(123) to Ser(208) of SEQ ID NO:2.

9. The isolated polypeptide of claim 8 having a Met residue at the N-terminus of said polypeptide.

10. The isolated polypeptide of claim 8 further comprising a heterologous polypeptide.

11. A composition comprising the polypeptide of claim 8 and a pharmaceutically acceptable carrier.

12. The isolated polypeptide of claim 3, which comprises Glu(104) to Ser(208) of SEQ ID NO:2.

13. The isolated polypeptide of claim 12 having a Met residue at the N-terminus of said polypeptide.

14. The isolated polypeptide of claim 12 further comprising a heterologous polypeptide.

15. A composition comprising the polypeptide of claim 12 and a pharmaceutically acceptable carrier.

16. The isolated polypeptide of claim 3, which comprises Glu(93) to Ser(208) of SEQ ID NO:2.

17. The isolated polypeptide of claim 16 having a Met residue at the N-terminus of said polypeptide.

18. The isolated polypeptide of claim 16 further comprising a heterologous polypeptide.

19. A composition comprising the polypeptide of claim 16 and a pharmaceutically acceptable carrier.

20. The isolated polypeptide of claim 3, which comprises Arg(80) to Ser(208) of SEQ ID NO:2.

21. The isolated polypeptide of claim 20 having a Met residue at the N-terminus of said polypeptide.

22. The isolated polypeptide of claim 20 further comprising a heterologous polypeptide.

23. A composition comprising the polypeptide of claim 20 and a pharmaceutically acceptable carrier.

24. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 20, wherein said patient has a wound.

25. The method of claim 24, wherein the patient is a human.

26. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 20, wherein said patient has mucositis.

27. The method of claim 26, wherein the patient is a human.

28. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 20, wherein said patient has an ulcer.

29. The method of claim 28, wherein the ulcer is a venous stasis ulcer.

30. The method of claim 28 wherein the ulcer is a diabetic ulcer.

31. The method of claim 28, wherein the ulcer is a cubitus ulcer.

32. The method of claim 28, wherein the patient is a human.

33. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 20, wherein said patient has inflammatory bowel disease.

34. The method of claim 33, wherein the patient is a human.

35. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 20, wherein said patient has a condition selected from the group consisting of liver disorder, lung damage, diabetes, oral injury, gastrointestinal injury, gut toxicity, gastric ulcer, duodenal ulcer, epidermolysis bullosa, skin graft, and skin disorder.

36. The method of claim 35, wherein the patient is a human.

37. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 20, wherein said patient has a condition selected from the group consisting of renal failure, brain injury, and breast tissue injury.

38. The method of claim 37, wherein the patient is a human.

39. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 20, wherein said patient has a condition selected from the group consisting of urothelial damage, female reproductive tract disorder, intestinal fibrosis, proctitis, pulmonary fibrosis, pneumonitis, pleural retraction, hemopoietic syndrome, and myelotoxicity.

40. The method of claim 39, wherein the patient is a human.

41. The isolated polypeptide of claim 3, which comprises Val(77) to Ser(208) of SEQ ID NO:2.

42. The isolated polypeptide of claim 41 having a Met residue at the N-terminus of said polypeptide.

43. The isolated polypeptide of claim 41 further comprising a heterologous polypeptide.

44. A composition comprising the polypeptide of claim 41 and a pharmaceutically acceptable carrier.

45. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 41, wherein said patient has a wound.

46. The method of claim 45, wherein the patient is a human.

47. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 41, wherein said patient has mucositis.

48. The method of claim 47, wherein the patient is a human.

49. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 41, wherein

said patient has an ulcer.

50. The method of claim 49, wherein the ulcer is a venous stasis ulcer.

51. The method of claim 49, wherein the ulcer is a diabetic ulcer.

52. The method of claim 49, wherein the ulcer is a cubitus ulcer.

53. The method of claim 49, wherein the patient is a human.

54. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 41, wherein said patient has inflammatory bowel disease.

55. The method of claim 54, wherein the patient is a human.

56. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 41, wherein said patient has a condition selected from the group consisting of liver disorder, lung damage, diabetes, oral injury, gastrointestinal injury, gut toxicity, gastric ulcer, duodenal ulcer, epidermolysis bullosa, skin graft, and skin disorder.

57. The method of claim 56, wherein the patient is a human.

58. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 41, wherein said patient has a condition selected from the group consisting of renal failure, brain injury, and breast tissue injury.

59. The method of claim 58, wherein the patient is a human.

60. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 41, wherein said patient has a condition selected from the group consisting of urothelial damage, female reproductive tract disorder, intestinal fibrosis, proctitis, pulmonary fibrosis, pneumonitis, pleural retraction, hemopoietic syndrome, and myelotoxicity.

61. The method of claim 60, wherein the patient is a human.

62. The isolated polypeptide of claim 3, which comprises Ser(69) to Ser(208) of SEQ ID NO:2.

63. The isolated polypeptide of claim 62 having a Met residue at the N-terminus of said polypeptide.

64. The isolated polypeptide of claim 62 further comprising a heterologous polypeptide.

65. A composition comprising the polypeptide of claim 62 and a pharmaceutically acceptable carrier.

66. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 62, wherein said patient has a wound.

67. The method of claim 66, wherein the patient is a human.

68. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 62, wherein said patient has mucositis.

69. The method of claim 68, wherein the patient is a human.

70. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 62, wherein said patient has an ulcer.

71. The method of claim 70, wherein the ulcer is a venous stasis ulcer.

72. The method of claim 70, wherein the ulcer is a diabetic ulcer.

73. The method of claim 70, wherein the ulcer is a cubitus ulcer.

74. The method of claim 70, wherein the patient is a human.

75. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 62, wherein said patient has inflammatory bowel disease.

76. The method of claim 75, wherein the patient is a human.

77. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 62, wherein said patient has a condition selected from the group consisting of liver disorder, lung damage, diabetes, oral injury, gastrointestinal injury, gut toxicity, gastric ulcer, duodenal ulcer, epidermolysis bullosa, skin graft, and skin disorder.

78. The method of claim 77, wherein the patient is a human.

79. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 62, wherein said patient has a condition selected from the group consisting of renal failure, brain injury, and breast tissue injury.

80. The method of claim 79, wherein the patient is a human.

81. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 62, wherein said patient has a condition selected from the group consisting of urothelial damage, female reproductive tract disorder, intestinal fibrosis, proctitis, pulmonary fibrosis, pneumonitis, pleural retraction, hemopoietic syndrome, and myelotoxicity.

82. The method of claim 81, wherein the patient is a human.

83. The isolated polypeptide of claim 3, which comprises Ala(63) to Ser(208) of SEQ ID NO:2.

84. The isolated polypeptide of claim 83 having a Met residue at the N-terminus of said polypeptide.

85. The isolated polypeptide of claim 83 further comprising a heterologous polypeptide.

86. A composition comprising the polypeptide of claim 83 and a pharmaceutically acceptable carrier.

87. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 83, wherein said patient has a wound.

88. The method of claim 87, wherein the patient is a human.

89. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 83 wherein said patient has mucositis.

90. The method of claim 89, wherein the patient is a human.

91. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 83, wherein said patient has an ulcer.

92. The method of claim 91, wherein the ulcer is a venous stasis ulcer.

93. The method of claim 91, wherein the ulcer is a diabetic ulcer.

94. The method of claim 91, wherein the ulcer is a cubitus ulcer.

95. The method of claim 91, wherein the patient is a human.

96. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 83, wherein said patient has inflammatory bowel disease.

97. The method of claim 96, wherein the patient is a human.

98. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 83, wherein said patient has a condition selected from the group consisting of liver disorder, lung damage, diabetes, oral injury, gastrointestinal

injury, gut toxicity, gastric ulcer, duodenal ulcer, epidermolysis bullosa, skin graft, and skin disorder.

99. The method of claim 98, wherein the patient is a human.

100. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 83, wherein said patient has a condition selected from the group consisting of renal failure, brain injury, and breast tissue injury.

101. The method of claim 100, wherein the patient is a human.

102. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 83, wherein said patient has a condition selected from the group consisting of urothelial damage, female reproductive tract disorder, intestinal fibrosis, proctitis, pulmonary fibrosis, pneumonitis, pleural retraction, hemopoietic syndrome, and myelotoxicity.

103. The method of claim 102, wherein the patient is a human.

104. The isolated polypeptide of claim 3, which comprises an amino acid sequence selected from the group consisting of:

(a) Asn(51) to Ser(208) of SEQ ID NO:2;

(b) Thr(50) to Ser(208) of SEQ ID NO:2;

(c) Ala(49) to Ser(208) of SEQ ID NO:2;

(d) Glu(48) to Ser(208) of SEQ ID NO:2;

(e) Pro(47) to Ser(208) of SEQ ID NO:2;

(f) Ser(46) to Ser(208) of SEQ ID NO:2;

(g) Val(45) to Ser(208) of SEQ ID NO:2;

(h) Met(44) to Ser(208) of SEQ ID NO:2;

(i) Asp(43) to Ser(208) of SEQ ID NO:2;

(j) Gln(42) to Ser(208) of SEQ ID NO:2,

(k) Gly(41) to Ser(208) of SEQ ID NO:2;

(l) Leu(40) to Ser(208) of SEQ ID NO:2;

(m) Ala(39) to Ser(208) of SEQ ID NO:2; and

(n) Gln(38) to Ser(208) of SEQ ID NO:2.

105. The isolated polypeptide of claim 104 having a Met residue at the N-terminus of said polypeptide.

106. The isolated polypeptide of claim 104 further comprising a heterologous polypeptide.

107. A composition comprising the polypeptide of claim 104 and a pharmaceutically acceptable carrier.

108. The isolated polypeptide of claim 3, which comprises Met(1) to Ser(141) of SEQ ID NO:96.

109. The isolated polypeptide of claim 108 further comprising a heterologous polypeptide.

110. A composition comprising the polypeptide of claim 108 and a pharmaceutically acceptable carrier.

111. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient an effective amount of the polypeptide of claim 108, wherein said patient has a wound.

112. The method of claim 111, wherein the patient is a human.

113. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient an effective amount of the polypeptide of claim 108, wherein said patient has mucositis.

114. The method of claim 113, wherein the patient is a human.

115. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 108, wherein said patient has an ulcers.

116. The method of claim 115, wherein the ulcer is a venous stasis ulcer.

117. The method of claim 115, wherein the ulcer is a diabetic ulcer.

118. The method of claim 115, wherein the ulcer is a cubitus ulcer.

119. The method of claim 115, wherein the patient is a human.

120. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 108, wherein said patient has inflammatory bowel disease.

121. The method of claim 120, wherein the patient is a human.

122. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 108, wherein said patient has a condition selected from the group consisting of liver disorder, lung damage, diabetes, oral injury, gastrointestinal injury, gut toxicity, gastric ulcer, duodenal ulcer, epidermolysis bullosa, skin graft, and

skin disorder.

123. The method of claim 122, wherein the patient is a human.

124. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 108, wherein said patient has a condition selected from the group consisting of renal failure, brain injury, and breast tissue injury.

125. The method of claim 124, wherein the patient is a human.

126. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 108, wherein said patient has a condition selected from the group consisting of urothelial damage, female reproductive tract disorder, intestinal fibrosis, proctitis, pulmonary fibrosis, pneumonitis, pleural retraction, hemopoietic syndrome, and myelotoxicity.

127. The method of claim 126, wherein the patient is a human.

128. The isolated polypeptide of claim 3, which comprises an amino acid sequence selected from the group consisting of:

(a) Thr(36) to Lys(183) of SEQ ID NO:2;

(b) Thr(36) to Arg(187) of SEQ ID NO:2;

(c) Thr(36) to Arg(188) of SEQ ID NO:2;

(d) Thr(36) to Lys(191) of SEQ ID NO:2;

(e) Thr(36) to Thr(192) of SEQ ID NO:2;

(f) Thr(36) to Arg(193) of SEQ ID NO:2;

(g) Thr(36) to Arg(194) of SEQ ID NO:2;

(h) Thr(36) to Lys(195) of SEQ ID NO:2;

(i) Thr(36) to Asn(196) of SEQ ID NO:2;

(j) Thr(36) to Thr(197) of SEQ ID NO:2;

(k) Thr(36) to Ser(198) of SEQ ID NO:2;

(l) Thr(36) to Ala(199) of SEQ ID NO:2;

(m) Thr(36) to His(200) of SEQ ID NO:2;

(n) Thr(36) to Phe(201) of SEQ ID NO:2;

(o) Thr(36) to Leu(202) of SEQ ID NO:2;

(p) Thr(36) to Pro(203) of SEQ ID NO:2;

(q) Thr(36) to Met(204) of SEQ ID NO:2;

(r) Thr(36) to Val(205) of SEQ ID NO:2;

(s) Thr(36) to Val(206) of SEQ ID NO:2; and

(t) Thr(36) to His(207) of SEQ ID NO:2.

129. The isolated polypeptide of claim 128 having a Met residue at the N-terminus of said polypeptide.

130. The isolated polypeptide of claim 128 further comprising a heterologous polypeptide.

131. A composition comprising the polypeptide of claim 128 and a pharmaceutically acceptable carrier.

132. The isolated polypeptide of claim 3, which consists of Gly(138) to Ser(208) of SEQ ID NO:2.

133. An isolated polypeptide consisting of the polypeptide of claim 132 having a Met residue at the N-terminus of said polypeptide.

134. The isolated polypeptide of claim 132 further comprising a heterologous polypeptide.

135. A composition comprising the polypeptide of claim 132 and a pharmaceutically acceptable carrier.

136. The isolated polypeptide of claim 3, which consists of Val(123) to Ser(208) of SEQ ID NO:2.

137. An isolated polypeptide consisting of the polypeptide of claim 136 having a Met residue at the N-terminus of said polypeptide.

138. The isolated polypeptide of claim 136 further comprising a heterologous polypeptide.

139. A composition comprising the polypeptide of claim 136 and a pharmaceutically acceptable carrier.

140. The isolated polypeptide of claim 3, which consists of Glu(104) to Ser(208) of SEQ ID NO:2.

141. An isolated polypeptide consisting of the polypeptide of claim 140, having a Met residue at the N-terminus of said polypeptide.

142. The isolated polypeptide of claim 140 further comprising a heterologous polypeptide.

143. A composition comprising the polypeptide of claim 140 and a pharmaceutically acceptable carrier.

144. The isolated polypeptide of claim 3, which consists of Glu(93) to Ser(208) of SEQ ID NO:2.

145. An isolated polypeptide consisting of the polypeptide of claim 144 having a Met residue at the N-terminus of said polypeptide.

146. The isolated polypeptide of claim 144 further comprising a heterologous polypeptide.

147. A composition comprising the polypeptide of claim 144 and a pharmaceutically acceptable carrier.

148. The isolated polypeptide of claim 3, which consists of Arg(80) to Ser(208) of SEQ ID NO:2.

149. An isolated polypeptide consisting of the polypeptide of claim 148 having a Met residue at the N-terminus of said polypeptide.

150. The isolated polypeptide of claim 148 further comprising a heterologous polypeptide.

151. A composition comprising the polypeptide of claim 148 and a

pharmaceutically acceptable carrier.

152. The isolated polypeptide of claim 3, which consists of Val(77) to Ser(208) of SEQ ID NO:2.

153. An isolated polypeptide consisting of the polypeptide of claim 152 having a Met residue at the N-terminus of said polypeptide.

154. The isolated polypeptide of claim 152 further comprising a heterologous polypeptide.

155. A composition comprising the polypeptide of claim 152 and a pharmaceutically acceptable carrier.

156. The isolated polypeptide of claim 3, which consists of Ser(69) to Ser(208) of SEQ ID NO:2.

157. An isolated polypeptide consisting of the polypeptide of claim 156 having a Met residue at the N-terminus of said polypeptide.

158. The isolated polypeptide of claim 156 further comprising a heterologous polypeptide.

159. A composition comprising the polypeptide of claim 156 and a pharmaceutically acceptable carrier.

160. The isolated polypeptide of claim 3, which consists of Ala(63) to Ser(208) of SEQ ID NO:2.

161. An isolated polypeptide consisting of the polypeptide of claim 160 having a Met residue at the N-terminus of said polypeptide.

162. The isolated polypeptide of claim 160 further comprising a heterologous polypeptide.

163. A composition comprising the polypeptide of claim 160 and a pharmaceutically acceptable carrier.

164. The isolated polypeptide of claim 3, which consists of an amino acid sequence selected from the group consisting of:

(a) Asn(51) to Ser(208) of SEQ ID NO:2;

(b) Thr(50) to Ser(208) of SEQ ID NO:2;

(c) Ala(49) to Ser(208) of SEQ ID NO:2;

(d) Glu(48) to Ser(208) of SEQ ID NO:2;

(e) Pro(47) to Ser(208) of SEQ ID NO:2;

(f) Ser(46) to Ser(208) of SEQ ID NO:2;

(g) Val(45) to Ser(208) of SEQ ID NO:2;

(h) Met(44) to Ser(208) of SEQ ID NO:2;

(i) Asp(43) to Ser(208) of SEQ ID NO:2;

(j) Gln(42) to Ser(208) of SEQ ID NO:2;

(k) Gly(41) to Ser(208) of SEQ ID NO:2;

(l) Leu(40) to Ser(208) of SEQ ID NO:2;

(m) Ala(39) to Ser(208) of SEQ ID NO:2; and

(n) Gln(38) to Ser(208) of SEQ ID NO:2.

165. An isolated polypeptide consisting of the polypeptide of claim 164 having a Met residue at the N-terminus of said polypeptide.

166. The isolated polypeptide of claim 164 further comprising a heterologous polypeptide.

167. A composition comprising the polypeptide of claim 164 and a pharmaceutically acceptable carrier.

168. The isolated polypeptide of claim 3, which consists of Met(1) to Ser(141) of SEQ ID NO:96.

169. The isolated polypeptide of claim 168 further comprising a heterologous polypeptide.

170. A composition comprising the polypeptide of claim 168 and a pharmaceutically acceptable carrier.

171. The isolated polypeptide of claim 3, which consists of an amino acid sequence selected from the group consisting of:

(a) Thr(36) to Lys(183) of SEQ ID NO:2;

(b) Thr(36) to Arg(187) of SEQ ID NO:2;

(c) Thr(36) to Arg(188) of SEQ ID NO:2;

(d) Thr(36) to Lys(191) of SEQ ID NO:2;

(e) Thr(36) to Thr(192) of SEQ ID NO:2;

(f) Thr(36) to Arg(193) of SEQ ID NO:2;

(g) Thr(36) to Arg(194) of SEQ ID NO:2;

(h) Thr(36) to Lys(195) of SEQ ID NO:2;

(i) Thr(36) to Asn(196) of SEQ ID NO:2;

(j) Thr(36) to Thr(197) of SEQ ID NO:2;

(k) Thr(36) to Ser(198) of SEQ ID NO:2;

(l) Thr(36) to Ala(199) of SEQ ID NO:2;

(m) Thr(36) to His(200) of SEQ ID NO:2;

(n) Thr(36) to Phe(201) of SEQ ID NO:2;

(o) Thr(36) to Leu(202) of SEQ ID NO:2;

(p) Thr(36) to Pro(203) of SEQ ID NO:2;

(q) Thr(36) to Met(204) of SEQ ID NO:2;

(r) Thr(36) to Val(205) of SEQ ID NO:2;

(s) Thr(36) to Val(206) of SEQ ID NO:2; and

(t) Thr(36) to His(207) of SEQ ID NO:2.

172. An isolated polypeptide consisting of the polypeptide of claim 171 having a Met residue at the N-terminus of said polypeptide.

173. The isolated polypeptide of claim 171 further comprising a heterologous polypeptide.

174. A composition comprising the polypeptide of claim 171 and a pharmaceutically acceptable carrier.

175. The isolated polypeptide of claim 3 having a Met residue at the N-terminus of said polypeptide.

176. The isolated polypeptide of claim 3 further comprising a heterologous polypeptide.

177. A composition comprising the polypeptide of claim 3 and a pharmaceutically acceptable carrier.

178. The isolated polypeptide of claim 2, which consists of 50 contiguous amino acids of SEQ ID NO:2.

179. An isolated polypeptide consisting of the polypeptide of claim 178 having a Met residue at the N-terminus of said polypeptide.

180. The isolated polypeptide of claim 178 further comprising a heterologous polypeptide.

181. A composition comprising the polypeptide of claim 178 and a pharmaceutically acceptable carrier.

182. The isolated polypeptide of claim 2 having a Met residue at the N-terminus of said polypeptide.

183. The isolated polypeptide of claim 2 further comprising a heterologous polypeptide.

184. A composition comprising the polypeptide of claim 2 and a pharmaceutically acceptable carrier.

185. The isolated polypeptide of claim 1, which consists of 30 contiguous amino acids of SEQ ID NO:2.

186. An isolated polypeptide consisting of the polypeptide of claim 185 having a Met residue at the N-terminus of said polypeptide.

187. The isolated polypeptide of claim 185 further comprising a heterologous polypeptide.

188. A composition comprising the polypeptide of claim 185 and a pharmaceutically acceptable carrier.

189. The isolated polypeptide of claim 1 having a Met residue at the N-terminus of said polypeptide.

190. The isolated polypeptide of claim 1 further comprising a heterologous polypeptide.

191. A composition comprising the polypeptide of claim 1 and a pharmaceutically acceptable carrier.

192. An isolated polypeptide comprising a polypeptide fragment of contiguous amino acids of SEQ ID NO:2 or a polypeptide fragment of contiguous amino acids of the polypeptide encoded by the cDNA of ATCC Deposit 75977, wherein said fragment stimulates epithlial cell proliferation.

193. The isolated polypeptide of claim 192 having a Met residue at the N-terminus of said polypeptide.

194. The isolated polypeptide of claim 192 further comprising a heterologous polypeptide.

195. A composition comprising the polypeptide of claim 192 and a pharmaceutically acceptable carrier.

196. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 192 wherein said patient has a wound.

197. The method of claim 196, wherein the patient is a human.

198. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 192, wherein said patient has mucositis.

199. The method of claim 198, wherein the patient is a human.

200. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 192, wherein said patient has an ulcer.

201. The method of claim 200, wherein the ulcer is a venous stasis ulcer.

202. The method of claim 200, wherein the ulcer is a diabetic ulcer.

203. The method of claim 200, wherein the ulcer is a cubitus ulcer.

204. The method of claim 200, wherein the patient is a human.

205. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 192, wherein said patient has inflammatory bowel disease.

206. The method of claim 205, wherein the patient is a human.

207. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 192, wherein said patient has a condition selected from the group consisting of liver disorder, lung damage, diabetes, oral injury, gastrointestinal injury, gut toxicity, gastric ulcer, duodenal ulcer, epidermolysis bullosa, skin graft, and skin disorder.

208. The method of claim 207, wherein the patient is a human.

209. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 192, wherein said patient a condition selected from the group consisting of renal failure, brain injury, and breast tissue injury.

210. The method of claim 209, wherein the patient is a human.

211. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 192, wherein said patient a condition selected from the group consisting of urothelial damage, female reproductive tract disorder, intestinal fibrosis, proctitis, pulmonary fibrosis, pneumonitis, pleural retraction, hemopoietic syndrome, and myelotoxicity.

212. The method of claim 211 wherein the patient is a human.

213. An isolated polypeptide comprising a mature portion of a protein of SEQ ID

NO:2 or a mature portion of a protein encoded by the cDNA of ATCC Deposit 75977.

214. The isolated polypeptide of claim 213 having a Met residue at the N-terminus of said polypeptide.

215. The isolated polypeptide of claim 213 further comprising a heterologous polypeptide.

216. A composition comprising the polypeptide of claim 213 and a pharmaceutically acceptable carrier.

217. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 213, wherein said patient has a wound.

218. The method of claim 217, wherein the patient is a human.

219. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 213, wherein said patient has mucositis.

220. The method of claim 199, wherein the patient is a human.

221. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 213, wherein said patient has an ulcer.

222. The method of claim 221, wherein the ulcer is a venous stasis ulcer.

223. The method of claim 221, wherein the ulcer is a diabetic ulcer.

224. The method of claim 221, wherein the ulcer is a cubitus ulcer.

225. The method of claim 221, wherein the patient is a human.

226. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 213, wherein said patient has inflammatory bowel disease.

227. The method of claim 226, wherein the patient is a human.

228. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 213, wherein said patient has a condition selected from the group consisting of liver disorder, lung damage, diabetes, oral injury, gastrointestinal injury, gut toxicity, gastric ulcer, duodenal ulcer, epidermolysis bullosa, skin graft, and skin disorder.

229. The method of claim 228, wherein the patient is a human.

230. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 213, wherein said patient has a condition selected from the group consisting of renal failure, brain injury, and breast tissue injury.

231. The method of claim 230, wherein the patient is a human.

232. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 213, wherein said patient has a condition selected from the group consisting of urothelial damage, female reproductive tract disorder, intestinal fibrosis, proctitis, pulmonary fibrosis, pneumonitis, pleural retraction, hemopoietic syndrome, and myelotoxicity.

233. The method of claim 232, wherein the patient is a human.

234. An isolated polypeptide comprising Cys(37) to Ser(208) of SEQ ID NO:2.

235. The isolated polypeptide of claim 234, which comprises Thr(36) to Ser(208) of SEQ ID NO:2.

236. The isolated polypeptide of claim 235 having a Met residue at the N-terminus of said polypeptide.

237. The isolated polypeptide of claim 235 further comprising a heterologous polypeptide.

238. A composition comprising the polypeptide of claim 235 and a pharmaceutically acceptable carrier.

239. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 235, wherein said patient has a wound.

240. The method of claim 239, wherein the patient is a human.

241. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 235, wherein said patient has mucositis.

242. The method of claim 241, wherein the patient is a human.

243. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 235, wherein said patient has an ulcer.

244. The method of claim 243, wherein the ulcer is a venous stasis ulcer.

245. The method of claim 243, wherein the ulcer is a diabetic ulcer.

246. The method of claim 243, wherein the ulcer is a cubitus ulcer.

247. The method of claim 243, wherein the patient is a human.

248. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 235, wherein said patient has inflammatory bowel disease.

249. The method of claim 248, wherein the patient is a human.

250. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 235, wherein said patient has a condition selected from the group consisting of liver disorder, lung damage, diabetes, oral injury, gastrointestinal injury, gut toxicity, gastric ulcer, duodenal ulcer, epidermolysis bullosa, skin graft, and skin disorder.

251. The method of claim 250, wherein the patient is a human.

252. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 235, wherein said patient has a condition selected from the group consisting of renal failure, brain injury, and breast tissue injury.

253. The method of claim 252, wherein the patient is a human.

254. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 235, wherein said patient has a condition selected from the group consisting of urothelial

damage, female reproductive tract disorder, intestinal fibrosis, proctitis, pulmonary fibrosis, pneumonitis, pleural retraction, hemopoietic syndrome, and myelotoxicity.

255. The method of claim 254, wherein the patient is a human.

256. The isolated polypeptide of claim 234, which comprises Trp(2) to Ser(208) of SEQ ID NO:2.

257. The isolated polypeptide of claim 256 further comprising a heterologous polypeptide.

258. A composition comprising the polypeptide of claim 256 and a pharmaceutically acceptable carrier.

259. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient an effective amount of the polypeptide of claim 256, wherein said patient has a wound.

260. The method of claim 259, wherein the patient is a human.

261. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 256, wherein said patient has mucositis.

262. The method of claim 261, wherein the patient is a human.

263. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 256, wherein said patient has an ulcer.

264. The method of claim 263, wherein the ulcer is a venous stasis ulcer.

265. The method of claim 263, wherein the ulcer is a diabetic ulcer.

266. The method of claim 263, wherein the ulcer is a cubitus ulcer.

267. The method of claim 263, wherein the patient is a human.

268. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 256, wherein said patient has inflammatory bowel disease.

269. The method of claim 268, wherein the patient is a human.

270. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 256, wherein said patient has a condition selected from the group consisting of liver disorder, lung damage, diabetes, oral injury, gastrointestinal injury, gut toxicity, gastric ulcer, duodenal ulcer, epidermolysis bullosa, skin graft, and skin disorder.

271. The method of claim 270, wherein the patient is a human.

272. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 256, wherein said patient has a condition selected from the group consisting of renal failure, brain injury, and breast tissue injury.

273. The method of claim 272, wherein the patient is a human.

274. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 256, wherein said patient has a condition selected from the group consisting of urothelial damage, female reproductive tract disorder, intestinal fibrosis, proctitis,

pulmonary fibrosis, pneumonitis, pleural retraction, hemopoietic syndrome, and myelotoxicity.

275. The method of claim 274, wherein the patient is a human.

276. The isolated polypeptide of claim 234, which comprises Met(1) to Ser(208) of SEQ ID NO:2.

277. The isolated polypeptide of claim 276 further comprising a heterologous polypeptide.

278. A composition comprising the polypeptide of claim 276 and a pharmaceutically acceptable carrier.

279. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient an effective amount of the polypeptide of claim 276, wherein said patient has a wound.

280. The method of claim 279, wherein the patient is a human.

281. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 176, wherein said patient has mucositis.

282. The method of claim 281, wherein the patient is a human.

283. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 276, wherein said patient has an ulcer.

284. The method of claim 283, wherein the ulcer is a venous stasis ulcers.

285. The method of claim 283, wherein the ulcer is a diabetic ulcer.

286. The method of claim 283, wherein the ulcer is a cubitus ulcer.

287. The method of claim 283, wherein the patient is a human.

288. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 276, wherein said patient has inflammatory bowel disease.

289. The method of claim 288, wherein the patient is a human.

290. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 276, wherein said patient has a condition selected from the group consisting of liver disorder, lung damage, diabetes, oral injury, gastrointestinal injury, gut toxicity, gastric ulcer, duodenal ulcer, epidermolysis bullosa, skin graft, and skin disorder.

291. The method of claim 290, wherein the patient is a human.

292. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 276, wherein said patient has a condition selected from the group consisting of renal failure, brain injury, and breast tissue injury.

293. The method of claim 292, wherein the patient is a human.

294. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 276, wherein said patient has a condition selected from the group consisting of urothelial damage, female reproductive tract disorder, intestinal fibrosis, proctitis, pulmonary fibrosis, pneumonitis, pleural retraction, hemopoietic syndrome, and

myelotoxicity.

295. The method of claim 294, wherein the patient is a human.

296. The isolated polypeptide of claim 234, which consists of Cys(37) to Ser(208) of SEQ ID NO:2.

297. An isolated polypeptide consisting of the polypeptide of claim 296 having a Met residue at the N-terminus of said polypeptide.

298. The isolated polypeptide of claim 296 further comprising a heterologous polypeptide.

299. A composition comprising the polypeptide of claim 296 and a pharmaceutically acceptable carrier.

300. The isolated polypeptide of claim 234, which consists of Thr(36) to Ser(208) of SEQ ID NO:2.

301. An isolated polypeptide consisting of the polypeptide of claim 300 having a Met residue at the N-terminus of said polypeptide.

302. The isolated polypeptide of claim 300 further comprising a heterologous polypeptide.

303. A composition comprising the polypeptide of claim 300 and a pharmaceutically acceptable carrier.

304. The isolated polypeptide of claim 234, which consists of Trp(2) to Ser(208) of SEQ ID NO:2.

305. The isolated polypeptide of claim 304 further comprising a heterologous polypeptide.

306. A composition comprising the polypeptide of claim 304 and a pharmaceutically acceptable carrier.

307. The isolated polypeptide of claim 234, which consists of Met(1) to Ser(208) of SEQ ID NO:2.

308. The isolated polypeptide of claim 307 further comprising a heterologous polypeptide.

309. A composition comprising the polypeptide of claim 307 and a pharmaceutically acceptable carrier.

310. The isolated polypeptide of claim 234 having a Met residue at the N-terminus of said polypeptide.

311. The isolated polypeptide of claim 234 further comprising a heterologous polypeptide.

312. A composition comprising the polypeptide of claim 234 and a pharmaceutically acceptable carrier.

313. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 234, wherein said patient has a wound.

314. The method of claim 313, wherein the patient is a human.

315. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 234, wherein said patient has mucositis.

316. The method of claim 315, wherein the patient is a human.

317. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 234, wherein said patient has an ulcer.

318. The method of claim 317, wherein the ulcer is a venous stasis ulcer.

319. The method of claim 317, wherein the ulcer is a diabetic ulcer.

320. The method of claim 317, wherein the ulcer is a cubitus ulcer.

321. The method of claim 317, wherein the patient is a human.

322. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 234, wherein said patient has inflammatory bowel disease.

323. The method of claim 322, wherein the patient is a human.

324. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 234, wherein said patient has a condition selected from the group consisting of liver disorder, lung damage, diabetes, oral injury, gastrointestinal injury, gut toxicity, gastric ulcer, duodenal ulcer, epidermolysis bullosa, skin graft, and skin disorder.

325. The method of claim 324, wherein the patient is a human.

326. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 243, wherein said patient has a condition selected from the group consisting of renal failure, brain injury, and breast tissue injury.

327. The method of claim 326, wherein the patient is a human.

328. A method of stimulating epithelial cell proliferation in a patient comprising administering to said patient the polypeptide of claim 234, wherein said patient has a condition selected from the group consisting of urothelial damage, female reproductive tract disorder, intestinal fibrosis, proctitis, pulmonary fibrosis, pneumonitis, pleural retraction, hemopoietic syndrome, and myelotoxicity.

329. The method of claim 328, wherein the patient is a human.

330. An isolated polypeptide consisting of 10 contiguous amino acids of SEQ ID NO:2.

331. An isolated polypeptide consisting of the polypeptide of claim 330 having a Met residue at the N-terminus of said polypeptide.

332. The isolated polypeptide of claim 330 further comprising a heterologous polypeptide.

333. A composition comprising the polypeptide of claim 330 and a pharmaceutically acceptable carrier.

334. An isolated polypeptide consisting of a polypeptide fragment of contiguous amino acids of SEQ ID NO:2 or a polypeptide fragment of contiguous amino acids of the polypeptide encoded by the cDNA of ATCC Deposit 75977, wherein said fragment stimulates epithelial cell proliferation.

335. An isolated polypeptide consisting of the polypeptide of claim 334 having a Met residue at the N-terminus of said polypeptide.

336. The isolated polypeptide of claim 334 further comprising a heterologous polypeptide.

337. A composition comprising the polypeptide of claim 334 and a pharmaceutically acceptable carrier.

338. An isolated polypeptide consisting of a mature portion of a protein of SEQ ID NO:2 or a mature portion of a protein encoded by the cDNA of ATCC Deposit 75977.

339. An isolated polypeptide consisting of the polypeptide of claim 338 having a Met residue at the N-terminus of said polypeptide.

340. The isolated polypeptide of claim 338 further comprising a heterologous polypeptide.

341. A composition comprising the polypeptide of claim 338 and a pharmaceutically acceptable carrier.

342. An isolated polynucleotide comprising a nucleic acid sequence encoding a polypeptide of at least 10 contiguous amino acids of SEQ ID NO:2.

343. The isolated polynucleotide of claim 342, wherein the nucleic acid sequence encodes a polypeptide of at least 30 contiguous amino acids of SEQ ID NO:2.

344. The isolated polynucleotide of claim 343, wherein the nucleic acid sequence encodes a polypeptide of at least 50 contiguous amino acids of SEQ ID NO:2.

345. The isolated polynucleotide of claim 344, wherein the nucleic acid sequence encodes a polypeptide comprising Gly(138) to Ser(208) of SEQ ID NO:2.

346. The isolated polynucleotide of claim 345, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

347. The isolated polynucleotide of claim 345 further comprising a heterologous polynucleotide.

348. The isolated polynucleotide claim 347, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

349. A vector comprising the polynucleotide of claim 345.

350. A host cell comprising the polynucleotide of claim 345 operably linked to a regulatory sequence.

351. A method of producing a polypeptide, comprising culturing the host cell of claim 350 under conditions such that said polypeptide is expressed and recovering said polypeptide.

352. The polypeptide produced by the method of claim 351.

353. The isolated polynucleotide of claim 344, wherein the nucleic acid sequence encodes a polypeptide comprising Val(123) to Ser(208) of SEQ ID NO:2.

354. The isolated polynucleotide of claim 353, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

355. The isolated polynucleotide of claim 353 further comprising a heterologous polynucleotide.

356. The isolated polynucleotide claim 355, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

357. A vector comprising the polynucleotide of claim 353.

358. A host cell comprising the polynucleotide of claim 353 operably linked to a regulatory sequence.

359. A method of producing a polypeptide, comprising culturing the host cell of claim 358 under conditions such that said polypeptide is expressed and recovering said polypeptide.

360. The polypeptide produced by the method of claim 359.

361. The isolated polynucleotide of claim 344, wherein the nucleic acid sequence encodes a polypeptide comprising Glu(104) to Ser(208) of SEQ ID NO:2.

362. The isolated polynucleotide of claim 361, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

363. The isolated polynucleotide of claim 361 further comprising a heterologous polynucleotide.

364. The isolated polynucleotide claim 363, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

365. A vector comprising the polynucleotide of claim 361.

366. A host cell comprising the polynucleotide of claim 361 operably linked to a regulatory sequence.

367. A method of producing a polypeptide, comprising culturing the host cell of claim 366 under conditions such that said polypeptide is expressed and recovering said polypeptide.

368. The polypeptide produced by the method of claim 367.

369. The isolated polynucleotide of claim 344, wherein the nucleic acid sequence encodes a polypeptide comprising Glu(93) to Ser(208) of SEQ ID NO:2.

370. The isolated polynucleotide of claim 369, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

371. The isolated polynucleotide of claim 369 further comprising a heterologous polynucleotide.

372. The isolated polynucleotide claim 371, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

373. A vector comprising the polynucleotide of claim 369.

374. A host cell comprising the polynucleotide of claim 369 operably linked to a regulatory sequence.

375. A method of producing a polypeptide, comprising culturing the host cell of claim 374 under conditions such that said polypeptide is expressed and recovering said polypeptide.

376. The polypeptide produced by the method of claim 375.

377. The isolated polynucleotide of claim 344, wherein the nucleic acid sequence encodes a polypeptide comprising Arg(80) to Ser(208) of SEQ ID NO:2.

378. The isolated polynucleotide of claim 377, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

379. The isolated polynucleotide of claim 377 further comprising a heterologous polynucleotide.

380. The isolated polynucleotide claim 379, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

381. A vector comprising the polynucleotide of claim 377.

382. A host cell comprising the polynucleotide of claim 377 operably linked to a regulatory sequence.

383. A method of producing a polypeptide, comprising culturing the host cell of claim 382 under conditions such that said polypeptide is expressed and recovering said polypeptide.

384. The polypeptide produced by the method of claim 383.

385. The isolated polynucleotide of claim 344, wherein the nucleic acid sequence encodes a polypeptide comprising Val(77) to Ser(208) of SEQ ID NO:2.

386. The isolated polynucleotide of claim 385, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

387. The isolated polynucleotide of claim 385 further comprising a heterologous polynucleotide.

388. The isolated polynucleotide claim 387, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

389. A vector comprising the polynucleotide of claim 385.

390. A host cell comprising the polynucleotide of claim 385 operably linked to a regulatory sequence.

391. A method of producing a polypeptide, comprising culturing the host cell of claim 390 under conditions such that said polypeptide is expressed and recovering said polypeptide.

392. The polypeptide produced by the method of claim 391.

393. The isolated polynucleotide of claim 344, wherein the nucleic acid sequence encodes a polypeptide comprising of Ser(69) to Ser(208) of SEQ ID NO:2.

394. The isolated polynucleotide of claim 393, wherein the nucleic acid

sequence further encodes a Met residue at the N-terminus of said polypeptide.

395. The isolated polynucleotide of claim 393 further comprising a heterologous polynucleotide.

396. The isolated polynucleotide claim 395, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

397. A vector comprising the polynucleotide of claim 393.

398. A host cell comprising the polynucleotide of claim 393 operably linked to a regulatory sequence.

399. A method of producing a polypeptide, comprising culturing the host cell of claim 398 under conditions such that said polypeptide is expressed and recovering said polypeptide.

400. The polypeptide produced by the method of claim 399.

401. The isolated polynucleotide of claim 344, wherein the nucleic acid sequence encodes a polypeptide comprising Ala(63) to Ser(208) of SEQ ID NO:2.

402. The isolated polynucleotide of claim 401, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

403. The isolated polynucleotide of claim 401 further comprising a heterologous polynucleotide.

404. The isolated polynucleotide claim 403, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

405. A vector comprising the polynucleotide of claim 401.

406. A host cell comprising the polynucleotide of claim 401 operably linked to a regulatory sequence.

407. A method of producing a polypeptide, comprising culturing the host cell of claim 406 under conditions such that said polypeptide is expressed and recovering said polypeptide.

408. The polypeptide produced by the method of claim 407.

409. The isolated polynucleotide of claim 344, wherein the nucleic acid sequence encodes a polypeptide comprising amino acids selected from the group consisting of:

(a) Asn(51) to Ser(208) of SEQ ID NO:2;

(b) Thr(50) to Ser(208) of SEQ ID NO:2;

(c) Ala(49) to Ser(208) of SEQ ID NO:2;

(d) Glu(48) to Ser(208) of SEQ ID NO:2;

(e) Pro(47) to Ser(208) of SEQ ID NO:2;

(f) Ser(46) to Ser(208) of SEQ ID NO:2;

(g) Val(45) to Ser(208) of SEQ ID NO:2;

(h) Met(44) to Ser(208) of SEQ ID NO:2;

(i) Asp(43) to Ser(208) of SEQ ID NO:2;

(j) Gln(42) to Ser(208) of SEQ ID NO:2;

(k) Gly(41) to Ser(208) of SEQ ID NO:2;

(l) Leu(40) to Ser(208) of SEQ ID NO:2;

(m) Ala(39) to Ser(208) of SEQ ID NO:2; and

(n) Gln(38) to Ser(208) of SEQ ID NO:2.

410. The isolated polynucleotide of claim 409, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

411. The isolated polynucleotide of claim 409 further comprising a heterologous polynucleotide.

412. The isolated polynucleotide claim 411, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

413. A vector comprising the polynucleotide of claim 409.

414. A host cell comprising the polynucleotide of claim 409 operably linked to

a regulatory sequence.

415. A method of producing a polypeptide, comprising culturing the host cell of claim 414 under conditions such that said polypeptide is expressed and recovering said polypeptide.

416. The polypeptide produced by the method of claim 415.

417. The isolated polynucleotide of claim 344, wherein the nucleic acid sequence encodes a polypeptide comprising Met(1) to Ser(141) of SEQ ID NO:96.

418. The isolated polynucleotide of claim 417, wherein the nucleic acid sequence comprises SEQ ID NO:95.

419. The isolated polynucleotide of claim 418 further comprising a heterologous polynucleotide.

420. The isolated polynucleotide claim 419, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

421. A vector comprising the polynucleotide of claim 418.

422. A host cell comprising the polynucleotide of claim 418 operably linked to a regulatory sequence.

423. A method of producing a polypeptide, comprising culturing the host cell of claim 422 under conditions such that said polypeptide is expressed and recovering said polypeptide.

424. The polypeptide produced by the method of claim 423.

425. The isolated polynucleotide of claim 417, wherein the nucleic acid consists of SEQ ID NO:95.

426. An isolated polynucleotide consisting of the polynucleotide of claim 425 fused to a heterologous polynucleotide.

427. The isolated polynucleotide claim 426, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

428. A vector comprising the polynucleotide of claim 425.

429. A host cell comprising the polynucleotide of claim 425 operably linked to a regulatory sequence.

430. A method of producing a polypeptide, comprising culturing the host cell of claim 429 under conditions such that said polypeptide is expressed and recovering said polypeptide.

431. The polypeptide produced by the method of claim 430.

432. The isolated polynucleotide of claim 417 further comprising a heterologous polynucleotide.

433. The isolated polynucleotide claim 432, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

434. A vector comprising the polynucleotide of claim 417.

435. A host cell comprising the polynucleotide of claim 417 operably linked to a regulatory sequence.

436. A method of producing a polypeptide, comprising culturing the host cell of claim 435 under conditions such that said polypeptide is expressed and recovering said polypeptide.

437. The polypeptide produced by the method of claim 436.

438. The isolated polynucleotide of claim 344, wherein the nucleic acid sequence encodes a polypeptide comprising amino acids selected from the group consisting of:

(a) Thr(36) to Lys(183) of SEQ ID NO:2;

(b) Thr(36) to Arg(187) of SEQ ID NO:2;

(c) Thr(36) to Arg(188) of SEQ ID NO:2;

(d) Thr(36) to Lys(191) of SEQ ID NO:2;

(e) Thr(36) to Thr(192) of SEQ ID NO:2;

(f) Thr(36) to Arg(193) of SEQ ID NO:2;

(g) Thr(36) to Arg(194) of SEQ ID NO:2;

(h) Thr(36) to Lys(195) of SEQ ID NO:2;

(i) Thr(36) to Asn(196) of SEQ ID NO:2;

(j) Thr(36) to Thr(197) of SEQ ID NO:2;

(k) Thr(36) to Ser(198) of SEQ ID NO:2;

(l) Thr(36) to Ala(199) of SEQ ID NO:2;

(m) Thr(36) to His(200) of SEQ ID NO:2;

(n) Thr(36) to Phe(201) of SEQ ID NO:2;

(o) Thr(36) to Leu(202) of SEQ ID NO:2;

(p) Thr(36) to Pro(203) of SEQ ID NO:2;

(q) Thr(36) to Met(204) of SEQ ID NO:2;

(r) Thr(36) to Val(205) of SEQ ID NO:2;

(s) Thr(36) to Val(206) of SEQ ID NO:2; and

(t) Thr(36) to His(207) of SEQ ID NO:2.

439. The isolated polynucleotide of claim 438, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

440. The isolated polynucleotide of claim 438 further comprising a heterologous polynucleotide.

441. The isolated polynucleotide claim 440, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

442. A vector comprising the polynucleotide of claim 438.

443. A host cell comprising the polynucleotide of claim 438 operably linked to a regulatory sequence.

444. A method of producing a polypeptide, comprising culturing the host cell of claim 443 under conditions such that said polypeptide is expressed and recovering said polypeptide.

445. The polypeptide produced by the method of claim 444.

446. The isolated polynucleotide of claim 344, consisting of a nucleic acid encoding a polypeptide of 50 contiguous amino acids of SEQ ID NO:2.

447. An isolated polynucleotide consisting of a nucleic acid sequence encoding the polypeptide of claim 446 having a Met residue at the N-terminus of said polypeptide.

448. An isolated polynucleotide consisting of the polynucleotide of claim 446 fused to a heterologous polynucleotide.

449. The isolated polynucleotide claim 448, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

450. A vector comprising the polynucleotide of claim 446.

451. A host cell comprising the polynucleotide of claim 446 operably linked to a regulatory sequence.

452. A method of producing a polypeptide, comprising culturing the host cell of claim 451 under conditions such that said polypeptide is expressed and recovering said polypeptide.

453. The polypeptide produced by the method of claim 452.

454. The isolated polynucleotide of claim 344, consisting of a nucleic acid encoding a polypeptide of Gly(138) to Ser(208) of SEQ ID NO:2.

455. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 454 having a Met residue at the N-terminus of said polypeptide.

456. An isolated polynucleotide consisting of the polynucleotide of claim 454 fused to a heterologous polynucleotide.

457. The isolated polynucleotide claim 456, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

458. A vector comprising the polynucleotide of claim 454.

459. A host cell comprising the polynucleotide of claim 454 operably linked to a regulatory sequence.

460. A method of producing a polypeptide, comprising culturing the host cell of claim 459 under conditions such that said polypeptide is expressed and recovering said polypeptide.

461. The polypeptide produced by the method of claim 460.

462. The isolated polynucleotide of claim 344, consisting of a nucleic acid encoding a polypeptide of Val(123) to Ser(208) of SEQ ID NO:2.

463. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 462 having a Met residue at the N-terminus of said polypeptide.

464. An isolated polynucleotide consisting of the polynucleotide of claim 462 fused to a heterologous polynucleotide.

465. The isolated polynucleotide claim 464, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

466. A vector comprising the polynucleotide of claim 462.

467. A host cell comprising the polynucleotide of claim 462 operably linked to a regulatory sequence.

468. A method of producing a polypeptide, comprising culturing the host cell of claim 467 under conditions such that said polypeptide is expressed and recovering said polypeptide.

469. The polypeptide produced by the method of claim 468.

470. The isolated polynucleotide of claim 344, consisting of a nucleic acid encoding a polypeptide of Glu(104) to Ser(208) of SEQ ID NO:2.

471. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 470 having a Met residue at the N-terminus of said polypeptide.

472. An isolated polynucleotide consisting of the polynucleotide of claim 470 fused to a heterologous polynucleotide.

473. The isolated polynucleotide claim 472, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

474. A vector comprising the polynucleotide of claim 470.

475. A host cell comprising the polynucleotide of claim 470 operably linked to a regulatory sequence.

476. A method of producing a polypeptide, comprising culturing the host cell of claim 475 under conditions such that said polypeptide is expressed and recovering said polypeptide.

477. The polypeptide produced by the method of claim 476.

478. The isolated polynucleotide of claim 344, consisting of a nucleic acid encoding a polypeptide of Glu(93) to Ser(208) of SEQ ID NO:2.

479. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 478 having a Met residue at the N-terminus of said polypeptide.

480. An isolated polynucleotide consisting of the polynucleotide of claim 478 fused to a heterologous polynucleotide.

481. The isolated polynucleotide claim 480, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

482. A vector comprising the polynucleotide of claim 478.

483. A host cell comprising the polynucleotide of claim 478 operably linked to a regulatory sequence.

484. A method of producing a polypeptide, comprising culturing the host cell of claim 483 under conditions such that said polypeptide is expressed and recovering said polypeptide.

485. The polypeptide produced by the method of claim 484.

486. The isolated polynucleotide of claim 344, consisting of a nucleic acid encoding a polypeptide of Arg(80) to Ser(208) of SEQ ID NO:2.

487. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 486 having a Met residue at the N-terminus of said polypeptide.

488. An isolated polynucleotide consisting of the polynucleotide of claim 486

fused to a heterologous polynucleotide.

489. The isolated polynucleotide claim 488, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

490. A vector comprising the polynucleotide of claim 486.

491. A host cell comprising the polynucleotide of claim 486 operably linked to a regulatory sequence.

492. A method of producing a polypeptide, comprising culturing the host cell of claim 491 under conditions such that said polypeptide is expressed and recovering said polypeptide.

493. The polypeptide produced by the method of claim 492.

494. The isolated polynucleotide of claim 344, consisting of a nucleic acid encoding a polypeptide of Val(77) to Ser(208) of SEQ ID NO:2.

495. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 494 having a Met residue at the N-terminus of said polypeptide.

496. An isolated polynucleotide consisting of the polynucleotide of claim 494 fused to a heterologous polynucleotide.

497. The isolated polynucleotide claim 496, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

498. A vector comprising the polynucleotide of claim 494.

499. A host cell comprising the polynucleotide of claim 494 operably linked to a regulatory sequence.

500. A method of producing a polypeptide, comprising culturing the host cell of claim 499 under conditions such that said polypeptide is expressed and recovering said polypeptide.

501. The polypeptide produced by the method of claim 500.

502. The isolated polynucleotide of claim 344, consisting of a nucleic acid encoding a polypeptide of Ser(69) to Ser(208) of SEQ ID NO:2.

503. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 502 having a Met residue at the N-terminus of said polypeptide.

504. An isolated polynucleotide consisting of the polynucleotide of claim 502 fused to a heterologous polynucleotide.

505. The isolated polynucleotide claim 504, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

506. A vector comprising the polynucleotide of claim 502.

507. A host cell comprising the polynucleotide of claim 502 operably linked to a regulatory sequence.

508. A method of producing a polypeptide, comprising culturing the host cell of claim 507 under conditions such that said polypeptide is expressed and recovering said polypeptide.

509. The polypeptide produced by the method of claim 508.

510. The isolated polynucleotide of claim 344, consisting of a nucleic acid

encoding a polypeptide of Ala(63) to Ser(208) of SEQ ID NO:2.

511. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 510 having a Met residue at the N-terminus of said polypeptide.

512. An isolated polynucleotide consisting of the polynucleotide of claim 510 fused to a heterologous polynucleotide.

513. The isolated polynucleotide claim 512, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

514. A vector comprising the polynucleotide of claim 510.

515. A host cell comprising the polynucleotide of claim 510 operably linked to a regulatory sequence.

516. A method of producing a polypeptide, comprising culturing the host cell of claim 515 under conditions such that said polypeptide is expressed and recovering said polypeptide.

517. The polypeptide produced by the method of claim 516.

518. The isolated polynucleotide of claim 344, consisting of a nucleic acid encoding a polypeptide selected from the group consisting of:

(a) Asn(51) to Ser(208) of SEQ ID NO:2;

(b) Thr(50) to Ser(208) of SEQ ID NO:2;

(c) Ala(49) to Ser(208) of SEQ ID NO:2;

(d) Glu(48) to Ser(208) of SEQ ID NO:2;

(e) Pro(47) to Ser(208) of SEQ ID NO:2;

(f) Ser(46) to Ser(208) of SEQ ID NO:2;

(g) Val(45) to Ser(208) of SEQ ID NO:2;

(h) Met(44) to Ser(208) of SEQ ID NO:2;

(i) Asp(43) to Ser(208) of SEQ ID NO:2;

(j) Gln(42) to Ser(208) of SEQ ID NO:2;

(k) Gly(41) to Ser(208) of SEQ ID NO:2;

(l) Leu(40) to Ser(208) of SEQ ID NO:2;

(m) Ala(39) to Ser(208) of SEQ ID NO:2; and

(n) Gln(38) to Ser(208) of SEQ ID NO:2.

519. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 518 having a Met residue at the N-terminus of said polypeptide.

520. An isolated polynucleotide consisting of the polynucleotide of claim 518 fused to a heterologous polynucleotide.

521. The isolated polynucleotide claim 520, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

522. A vector comprising the polynucleotide of claim 518.

523. A host cell comprising the polynucleotide of claim 518 operably linked to a regulatory sequence.

524. A method of producing a polypeptide, comprising culturing the host cell of claim 523 under conditions such that said polypeptide is expressed and recovering said polypeptide.

525. The polypeptide produced by the method of claim 524.

526. The isolated polynucleotide of claim 344, consisting of a nucleic acid encoding Met(1) to Ser(141) of SEQ ID NO:96.

527. An isolated polynucleotide consisting of the polynucleotide of claim 526 fused to a heterologous polynucleotide.

528. The isolated polynucleotide claim 527, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

529. A vector comprising the polynucleotide of claim 526.

530. A host cell comprising the polynucleotide of claim 526 operably linked to a regulatory sequence.

531. A method of producing a polypeptide, comprising culturing the host cell of claim 530 under conditions such that said polypeptide is expressed and recovering said polypeptide.

532. The polypeptide produced by the method of claim 531.

533. The isolated polynucleotide of claim 344, consisting of a nucleic acid encoding amino acids selected from the group consisting of:

(a) Thr(36) to Lys(183) of SEQ ID NO:2;

(b) Thr(36) to Arg(187) of SEQ ID NO:2;

(c) Thr(36) to Arg(188) of SEQ ID NO:2;

(d) Thr(36) to Lys(191) of SEQ ID NO:2;

(e) Thr(36) to Thr(192) of SEQ ID NO:2;

(f) Thr(36) to Arg(193) of SEQ ID NO:2;

(g) Thr(36) to Arg(194) of SEQ ID NO:2;

(h) Thr(36) to Lys(195) of SEQ ID NO:2;

(i) Thr(36) to Asn(196) of SEQ ID NO:2;

(j) Thr(36) to Thr(197) of SEQ ID NO:2;

(k) Thr(36) to Ser(198) of SEQ ID NO:2;

(l) Thr(36) to Ala(199) of SEQ ID NO:2;

(m) Thr(36) to His(200) of SEQ ID NO:2;

(n) Thr(36) to Phe(201) of SEQ ID NO:2;

(o) Thr(36) to Leu(202) of SEQ ID NO:2;

(p) Thr(36) to Pro(203) of SEQ ID NO:2;

(q) Thr(36) to Met(204) of SEQ ID NO:2;

(r) Thr(36) to Val(205) of SEQ ID NO:2;

(s) Thr(36) to Val(206) of SEQ ID NO:2; and

(t) Thr(36) to His(207) of SEQ ID NO:2.

534. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 533 having a Met residue at the N-terminus of said polypeptide.

535. An isolated polynucleotide consisting of the polynucleotide of claim 533 fused to a heterologous polynucleotide.

536. The isolated polynucleotide claim 535, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

537. A vector comprising the polynucleotide of claim 533.

538. A host cell comprising the polynucleotide of claim 533 operably linked to a regulatory sequence.

539. A method of producing a polypeptide, comprising culturing the host cell of claim 538 under conditions such that said polypeptide is expressed and recovering said polypeptide.

540. The polypeptide produced by the method of claim 539.

541. The isolated polynucleotide of claim 344, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

542. The isolated polynucleotide of claim 344 further comprising a heterologous polynucleotide.

543. The isolated polynucleotide claim 542, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

544. A vector comprising the polynucleotide of claim 344.

545. A host cell comprising the polynucleotide of claim 344 operably linked to a regulatory sequence.

546. A method of producing a polypeptide, comprising culturing the host cell of claim 545 under conditions such that said polypeptide is expressed and recovering said polypeptide.

547. The polypeptide produced by the method of claim 546.

548. The isolated polynucleotide of claim 343, consisting of a nucleic acid encoding a polypeptide of 30 contiguous amino acids of SEQ ID NO:2.

549. An isolated polynucleotide consisting of a nucleic acid sequence encoding the polypeptide of claim 548 having a Met residue at the N-terminus of said polypeptide.

550. An isolated polynucleotide consisting of the polynucleotide of claim 548 fused to a heterologous polynucleotide.

551. The isolated polynucleotide claim 550, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

552. A vector comprising the polynucleotide of claim 548.

553. A host cell comprising the polynucleotide of claim 548 operably linked to

a regulatory sequence.

554. A method of producing a polypeptide, comprising culturing the host cell of claim 553 under conditions such that said polypeptide is expressed and recovering said polypeptide.

555. The polypeptide produced by the method of claim 554.

556. The isolated polynucleotide of claim 343, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

557. The isolated polynucleotide of claim 343 further comprising a heterologous polynucleotide.

558. The isolated polynucleotide claim 557, wherein said heterologous polynucleotide encode a heterologous polypeptide.

559. A vector comprising the polynucleotide of claim 343.

560. A host cell comprising the polynucleotide of claim 343 operably linked to a regulatory sequence.

561. A method of producing a polypeptide, comprising culturing the host cell of claim 560 under conditions such that said polypeptide is expressed and recovering said polypeptide.

562. The polypeptide produced by the method of claim 561.

563. The isolated polynucleotide of claim 342 consisting of a nucleic acid encoding a polypeptide of 10 contiguous amino acids of SEQ ID NO:2.

564. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 563 having a Met residue at the N-terminus of said polypeptide.

565. An isolated polynucleotide consisting of the polynucleotide of claim 563 fused to a heterologous polynucleotide.

566. The isolated polynucleotide claim 565, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

567. A vector comprising the polynucleotide of claim 563.

568. A host cell comprising the polynucleotide of claim 563 operably linked to a regulatory sequence.

569. A method of producing a polypeptide, comprising culturing the host cell of claim 568 under conditions such that said polypeptide is expressed and recovering said polypeptide.

570. The polypeptide produced by the method of claim 569.

571. The isolated polynucleotide of claim 342, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

572. The isolated polynucleotide of claim 342 further comprising a heterologous polynucleotide.

573. The isolated polynucleotide claim 572, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

574. A vector comprising the polynucleotide of claim 342.

575. A host cell comprising the polynucleotide of claim 342 operably linked to a regulatory sequence.

576. A method of producing a polypeptide, comprising culturing the host cell of claim 575 under conditions such that said polypeptide is expressed and recovering said polypeptide.

577. The polypeptide produced by the method of claim 576.

578. An isolated polynucleotide comprising a nucleic acid encoding a polypeptide fragment of contiguous amino acids of SEQ ID NO:2 or a polypeptide fragment of contiguous amino acids of the polypeptide encoded by the cDNA of ATCC Deposit 75977, wherein said fragment stimulates epithelial cell proliferation.

579. The isolated polynucleotide of claim 578, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide fragment.

580. The isolated polynucleotide of claim 578 further comprising a heterologous polynucleotide.

581. The isolated polynucleotide claim 580, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

582. A vector comprising the polynucleotide of claim 578.

583. A host cell comprising the polynucleotide of claim 578 operably linked to a regulatory sequence.

584. A method of producing a polypeptide, comprising culturing the host cell of claim 583 under conditions such that said polypeptide is expressed and recovering said polypeptide.

585. The polypeptide produced by the method of claim 584.

586. An isolated polynucleotide comprising a nucleic acid which encodes a mature portion of a protein of SEQ ID NO:2 or a mature portion of a protein encoded by the cDNA of ATCC Deposit 75977.

587. The isolated polynucleotide of claim 586, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus said protein.

588. The isolated polynucleotide of claim 586 further comprising a heterologous polynucleotide.

589. The isolated polynucleotide claim 588, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

590. A vector comprising the polynucleotide of claim 586.

591. A host cell comprising the polynucleotide of claim 586 operably linked to a regulatory sequence.

592. A method of producing a polypeptide, comprising culturing the host cell of claim 591 under conditions such that said polypeptide is expressed and recovering said polypeptide.

593. The polypeptide produced by the method of claim 592.

594. An isolated polynucleotide comprising a nucleic acid sequence encoding Cys(37) to Ser(208) of SEQ ID NO:2.

595. The isolated polynucleotide of claim 594, wherein the nucleic acid sequence encodes a polypeptide comprising Thr(36) to Ser(208) of SEQ ID NO:2.

596. The isolated polynucleotide of claim 595, wherein the nucleic acid

sequence further encodes a Met residue at the N-terminus of said polypeptide.

597. The isolated polynucleotide of claim 595 further comprising a heterologous polynucleotide.

598. The isolated polynucleotide claim 597, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

599. A vector comprising the polynucleotide of claim 595.

600. A host cell comprising the polynucleotide of claim 595 operably linked to a regulatory sequence.

601. A method of producing a polypeptide, comprising culturing the host cell of claim 600 under conditions such that said polypeptide is expressed and recovering said polypeptide.

602. The polypeptide produced by the method of claim 601.

603. The isolated polynucleotide of claim 594, wherein the nucleic acid sequence encodes a polypeptide comprising Trp(2) to Ser(208) of SEQ ID NO:2.

604. The isolated polynucleotide of claim 603 further comprising a heterologous polynucleotide.

605. The isolated polynucleotide claim 604, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

606. A vector comprising the polynucleotide of claim 603.

607. A host cell comprising the polynucleotide of claim 603 operably linked to a regulatory sequence.

608. A method of producing a polypeptide, comprising culturing the host cell of claim 607 under conditions such that said polypeptide is expressed and recovering said polypeptide.

609. The polypeptide produced by the method of claim 608.

610. The isolated polynucleotide of claim 594, wherein the nucleic acid sequence encodes a polypeptide comprising Met(1) to Ser(208) of SEQ ID NO:2.

611. The isolated polynucleotide of claim 610, wherein the nucleic acid sequence comprises SEQ ID NO:1.

612. The isolated polynucleotide of claim 611 further comprising a heterologous polynucleotide.

613. The isolated polynucleotide claim 612, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

614. A vector comprising the polynucleotide of claim 611.

615. A host cell comprising the polynucleotide of claim 611 operably linked to a regulatory sequence.

616. A method of producing a polypeptide, comprising culturing the host cell of claim 615 under conditions such that said polypeptide is expressed and recovering said polypeptide.

617. The polypeptide produced by the method of claim 616.

618. The isolated polynucleotide of claim 610, wherein the nucleic acid sequence consists of SEQ ID NO:1.

619. An isolated polynucleotide consisting of the polynucleotide of claim 618 fused to a heterologous polynucleotide.

620. The isolated polynucleotide claim 619, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

621. A vector comprising the polynucleotide of claim 618.

622. A host cell comprising the polynucleotide of claim 618 operably linked to a regulatory sequence.

623. A method of producing a polypeptide, comprising culturing the host cell of claim 622 under conditions such that said polypeptide is expressed and recovering said polypeptide.

624. The polypeptide produced by the method of claim 623.

625. The isolated polynucleotide of claim 610 further comprising a heterologous polynucleotide.

626. The isolated polynucleotide claim 625, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

627. A vector comprising the polynucleotide of claim 610.

628. A host cell comprising the polynucleotide of claim 610 operably linked to a regulatory sequence.

629. A method of producing a polypeptide, comprising culturing the host cell of claim 628 under conditions such that said polypeptide is expressed and recovering said polypeptide.

630. The polypeptide produced by the method of claim 629.

631. The isolated polynucleotide of claim 594, consisting of a nucleic acid encoding a polypeptide of Cys(37) to Ser(208) of SEQ ID NO:2.

632. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 631 having a Met residue at the N-terminus of said polypeptide.

633. An isolated polynucleotide consisting of the polynucleotide of claim 631 fused to a heterologous polynucleotide.

634. The isolated polynucleotide claim 633, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

635. A vector comprising the polynucleotide of claim 631.

636. A host cell comprising the polynucleotide of claim 631 operably linked to a regulatory sequence.

637. A method of producing a polypeptide, comprising culturing the host cell of claim 636 under conditions such that said polypeptide is expressed and recovering said polypeptide.

638. The polypeptide produced by the method of claim 637.

639. The isolated polynucleotide of claim 594, consisting of a nucleic acid encoding a polypeptide of Thr(36) to Ser(208) of SEQ ID NO:2.

640. An isolated polynucleotide consisting of a nucleic acid encoding the polypeptide of claim 639 having a Met residue at the N-terminus of said polypeptide.

641. An isolated polynucleotide consisting of the polynucleotide of claim 639 fused to a heterologous polynucleotide.

642. The isolated polynucleotide claim 641, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

643. A vector comprising the polynucleotide of claim 639.

644. A host cell comprising the polynucleotide of claim 639 operably linked to a regulatory sequence.

645. A method of producing a polypeptide, comprising culturing the host cell of claim 644 under conditions such that said polypeptide is expressed and recovering said polypeptide.

646. The polypeptide produced by the method of claim 645.

647. The isolated polynucleotide of claim 594, consisting of a nucleic acid encoding a polypeptide of Trp(2) to Ser(208) of SEQ ID NO:2.

648. An isolated polynucleotide consisting of the polynucleotide of claim 647 fused to a heterologous polynucleotide.

649. The isolated polynucleotide claim 648, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

650. A vector comprising the polynucleotide of claim 647.

651. A host cell comprising the polynucleotide of claim 647 operably linked to a regulatory sequence.

652. A method of producing a polypeptide, comprising culturing the host cell of claim 651 under conditions such that said polypeptide is expressed and recovering said polypeptide.

653. The polypeptide produced by the method of claim 652.

654. The isolated polynucleotide of claim 594, consisting of a nucleic acid encoding Met(1) to Ser(208) of SEQ ID NO:2.

655. An isolated polynucleotide consisting of the polynucleotide of claim 654 fused to a heterologous polynucleotide.

656. The isolated polynucleotide claim 655, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

657. A vector comprising the polynucleotide of claim 654.

658. A host cell comprising the polynucleotide of claim 654 operably linked to a regulatory sequence.

659. A method of producing a polypeptide, comprising culturing the host cell of claim 658 under conditions such that said polypeptide is expressed and recovering said polypeptide.

660. The polypeptide produced by the method of claim 659.

661. The isolated polynucleotide of claim 594, wherein the nucleic acid sequence further encodes a Met residue at the N-terminus of said polypeptide.

662. The isolated polynucleotide of claim 594 further comprising a heterologous polynucleotide.

663. The isolated polynucleotide claim 662, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

664. A vector comprising the polynucleotide of claim 594.

665. A host cell comprising the polynucleotide of claim 594 operably linked to a regulatory sequence.

666. A method of producing a polypeptide, comprising culturing the host cell of claim 665 under conditions such that said polypeptide is expressed and recovering said polypeptide.

667. The polypeptide produced by the method of claim 666.

668. An isolated polynucleotide consisting of a nucleic acid encoding a polypeptide fragment of contiguous amino acids of SEQ ID NO:2 or a polypeptide fragment of contiguous amino acids of the polypeptide encoded by the cDNA of ATCC Deposit 75977, wherein said fragment stimulates epithelial cell proliferation.

669. An isolated polynucleotide consisting of a nucleic acid sequence encoding the polypeptide fragment of claim 668 having a Met residue at the N-terminus of said polypeptide fragment.

670. An isolated polynucleotide consisting of the polynucleotide of claim 668 fused to a heterologous polynucleotide.

671. The isolated polynucleotide claim 670, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

672. A vector comprising the polynucleotide of claim 668.

673. A host cell comprising the polynucleotide of claim 668 operably linked to a regulatory sequence.

674. A method of producing a polypeptide, comprising culturing the host cell of claim 673 under conditions such that said polypeptide is expressed and recovering said polypeptide.

675. The polypeptide produced by the method of claim 674.

676. An isolated polynucleotide consisting of a nucleic acid encoding a mature portion of a protein of SEQ ID NO:2 or a mature portion of a protein encoded by the cDNA of ATCC Deposit 75977.

677. An isolated polynucleotide consisting of a nucleic acid sequence encoding the mature portion of claim 676 having a Met residue at the N-terminus of said mature portion.

678. An isolated polynucleotide consisting of the polynucleotide of claim 676 fused to a heterologous polynucleotide.

679. The isolated polynucleotide claim 678, wherein said heterologous polynucleotide encodes a heterologous polypeptide.

680. A vector comprising the polynucleotide of claim 676.

681. A host cell comprising the polynucleotide of claim 676 operably linked to a regulatory sequence.

682. A method of producing a polypeptide, comprising culturing the host cell of claim 681 under conditions such that said polypeptide is expressed and recovering said polypeptide.

683. The polypeptide produced by the method of claim 682.